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pQCD short path length corrections to (D)GLV energy loss in the QGP

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We show the way in which energy is dissipated in the QGP created in high-multiplicity pp and pA collisions by calculating, in pQCD, the short path length corrections to the now well-known DGLV energy loss formulae for massive quarks. Previously neglected terms, exponentially suppressed for large paths, are derived and included in the radiative energy loss formula for the first time; thus our generalization matches onto the usual DGLV formula for large paths but includes additional contributions for small paths. We compute the corrections to R_{AA} at LHC using an energy loss model including the full radiative energy loss formula convolved with collisional energy loss, and we give a first prediction for R_{pA} including final state energy loss.

On behalf of collaboration:

NONE

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